October 15, 1963

Dr. H. P. Baumgartner
President, Liana of Waikiki
1218 Waimanu Street
Honolulu 14, Hawaii

Dear Dr. Baumgartner:

I am very much obliged to you for your helpful letter of September 19. We had eventually discovered the Neumann publication and had unsuccessfully searched the literature for any further developments from his method. I am very pleased to have heard from you about your contribution on the use of coumarin derivatives.

We have considered the coumarins as possible bases for fluorescent detectors, particularly since analogous compounds have been used for the determination of β-galactosidase. We have found, however, a major advantage in fluors whose absorption peak is well into the visible, since interference from non-specific fluorescense of background material is greatly reduced and can be a serious problem when ultraviolet excitation is used.

We have also been attentive to the other problem that you mention, which is a very real one when accurate kinetics are to be determined: the use of a bi-functional fluor. We have been getting around this by using the monophosphate of the monomethyl ether of fluorescein as the starting material. The results with these reagents leave very little to be desired with respect to sensitivity and ease of fitting into an instrumental system, with the sole exception of their spontaneous hydrolysis. We are scanning a number of other derivatives related to fluorescein to determine the best answer to this problem.

As far as I know you are the first author since Neumann to refer to fluorescein phosphate; nor have I been able to find any further record in the literature of Neumann's own activity. From the standpoint of the general problem of the effectiveness of scientific communication, I would be most interested to hear whether you have any information on this score.

Sincerely yours,

Joshua Lederberg
Professor of Genetics